

CLINICAL IMAGE

Primary leiomyosarcoma of the inferior vena cava: Is vascular reconstruction always necessary?

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Abstract

Both MRI and CT scan can determine tumor size and its extension. PLV have a poor prognosis if surgical resection cannot be achieved. We recommend no reconstruction for type II PLV if venous contact is less than 180° or where the implantation base does not exceed one third of the vena cava.

KEYWORDS

inferior vena cava, primary leiomyosarcoma, vascular reconstruction

1 | CASE PRESENTATION

Primary leiomyosarcoma of the inferior vena cava is considered as rare vascular retroperitoneal sarcoma. Although radical resection with free margin is necessary, vascular strategies are very challenging.

A 65-year-old woman without past medical history presented with intermittent right upper quadrant abdominal pain. The physical exam and all laboratory exam including CA19-9 and ACE were normal.

Abdominal CT revealed a 6.5 × 5 cm heterogeneous noncalcified soft-tissue mass. It was involving the inferior vena cava (IVC) with venous contact less than 180° and abutting to the right renal vein (Figure 1).

MRI showed regular mass containing fat attenuation with necrotic area (Figure 2).

Primary leiomyosarcoma of the IVC (PLV), GIST, or other tumors of the adjacent organs (adrenal or retroperitoneum) cannot be excluded.

An explorative laparotomy was performed, and the tumor was located on the lateral wall of the inter-renal

IVC segment (segment II), with tumor development predominantly extracaval (Figure 3).

A radical en bloc resection of the tumor was performed with lateral resection of the vena cava. Primary closure of the defect was performed. No patch repair was necessary.

Postoperative recovery was uneventful. Pathology confirmed R0 resection of a grade 1 PLV. Immunohistochemically, the tumor cells were positive for PS-100 and desmin and negative for CK and c-kit.

Leiomyosarcoma is a rare tumor (5%–7% of all soft-tissue sarcomas) arising from mesenchymal smooth cells.

The PLV can be extraluminal, endoluminal, and mixed. They are classified according to the IVC segment involved (Type I is below the RV; Type II located between the RV to the retro hepatic segment of the IVC; Type III is located in the supra hepatic segment of the IVC).¹

Several options can be proposed for the management of type II PLV, but surgical treatment should include complete tumor resection and the preservation of the venous return.²

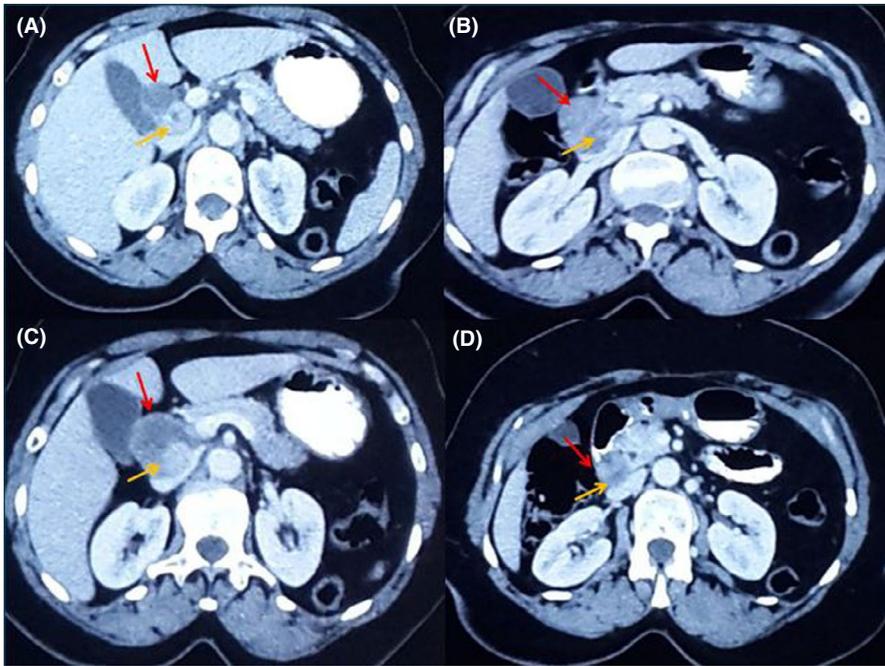


FIGURE 1 Abdominal CT images showing the mass (red arrow) and its extension to the inter-renal Inferior vena cava segment (yellow arrow)

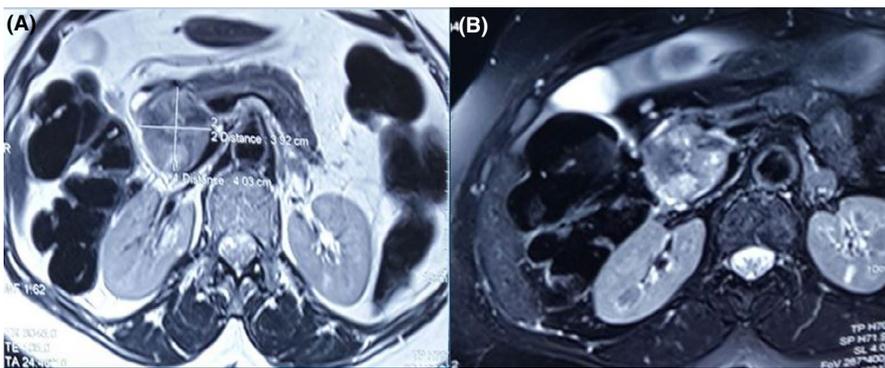


FIGURE 2 MRI images

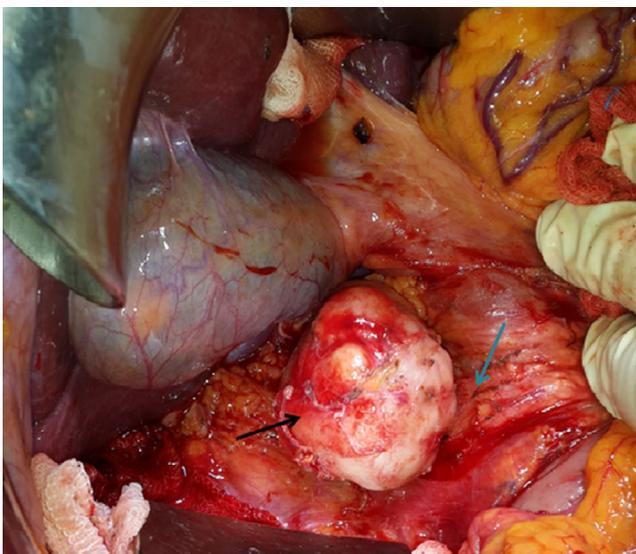


FIGURE 3 Intraoperative image showing a 5 cm retroperitoneal mass (black arrow) invading approximately 2 cm of the right side of the inferior vena cava (blue arrow)

CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

NK, AB, and HR: involved in writing review and editing. AT: involved in review and editing. BM: involved in conceptualization. MR: involved in validation and supervision.

ETHICAL APPROVAL

Personal data have been respected.

CONSENT

Published with the consent of the patients.

DATA AVAILABILITY STATEMENT

Data openly available in a public repository that issues datasets with DOIs.

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